Chrono

Demos

Chrono::Engine – demos

FOLDER	CONTENT
demo_CH_archive	Demonstrate archives for serialization/de-serialization
demo_CH_buildsystem	Demonstrate basic system, body, and joint creation
demo_CH_coords	Demonstrate use of Chrono coordinate transformations
demo_CH_functions	Demonstrate use of ChFunctions as inputs to other Chrono classes
demo_CH_math	Demonstrate how to perform math operation using Chrono methods
demo_CH_powertrain	Demonstrate creation of a powertrain using the Chrono shaft classes
demo_CH_solver	Demonstrate the use of some iterative solvers in Chrono
demo_CH_stream	Demonstrate serialization/de-serialization (obsolete)

Chrono::Irrlicht – demos

FOLDER	CONTENT
demo_IRR_aux_ref	Class for rigid bodies with an auxiliary reference
demo_IRR_ballSMC	Ball bouncing on rigid ground using penalty contact
demo_IRR_bricks	Ball tears down a bricked wall: Constraint contact
demo_IRR_cohesion	Demonstrate cohesion with complementarity method
demo_IRR_collision_2d	Demonstrate collision using 2D contact shapes
demo_IRR_collisionNSC	Demonstrate contact/collision with diversely shaped bodies – Complementarity method
demo_IRR_collisionSMC	Demonstrate contact/collision with diversely shaped bodies – Penalty method
demo_IRR_conveyor	Demonstrate contact with rigid bodies falling on moving conveyor belt
demo_IRR_crank	Create and visualize with Irrlicht a slider-crank mechanism
demo_IRR_earthquake	Simulation of the action of an earthquake on a bricked structure
demo_IRR_emit_cluster	Demonstrate generation of particle flows
demo_IRR_forklift	Drive a forklift

Chrono::Irrlicht – demos

FOLDER	CONTENT
demo_IRR_fourbar	Create and visualize a four-bar mechanism
demo_IRR_friction	Evaluate the effect of sensitivities in various contact parameters
demo_IRR_gears	Demonstrate how to impose transmission ratios between two shafts
demo_IRR_assets	Demonstrate the use of visualization assets in run time for Irrlicht
demo_IRR_link_bushing	Demonstrate and visualize a 6-dof bushing element
demo_IRR_mecanum	Creation, simulation, and visualization of a three-wheeled robot
demo_IRR_paths	Demonstrate the definition of paths to define body points' trajectories
demo_IRR_plane_plane	Demonstrate plane-to-plane joint
demo_IRR_rev_limits	Demonstrate the use of rotation limits on a revolute joint
demo_IRR_rev_sph	Demonstrate the creation of a composite revolute-spherical joint
demo_IRR_rev_trans	Demonstrate the creation of a composite revolute-translation joint
demo_IRR_soilbin	Creation of soil bin test rig mechanism with user-controlled particle generator

Chrono::Irrlicht – demos

FOLDER	CONTENT
demo_IRR_spring	Demonstrate the use of a spring class whose spring law is user-defined (callback)
demo_IRR_suspension	Comprehensive creation of a simplified car using Chrono classes
demo_IRR_tire	Load a convex hull complex file for contact
demo_IRR_tracks	Modeling of a simplified tracked vehicle
demo_IRR_ujoint	Demonstrate the creation and visualization of a universal joint

Chrono::Postprocess – demos

FOLDER	CONTENT
demo_POST_emit_creation	Demonstrate creation of random shapes from various distributions
demo_POST_emitter_asset	Demonstrate attaching a particle emitter to a moving object
demo_POST_gnuplot	Demonstrate the use of the postprocessing tool GNUPlot in Chrono
demo_POST_povray	Demonstrate the use of the visualization tool POV-Ray with exported Chrono objects
demo_POST_timestepping	Demonstrate time integration of differential equations

Chrono::FEA– demos

FOLDER	CONTENT
demo_FEA_basic	Simplest example for learning nodes, elements and meshes. No GUI
demo_FEA_beams	Learn how to use Euler-Bernoulli corotational beams
demo_FEA_beamsconstr	Learn how to use constraints to connect beams
demo_FEA_brick	Example showing the use of the brick element
demo_FEA_cables	Show how to use the ANCF beam element to model cables, i.e. without twisting resistance
demo_FEA_contacts	Learn how to assign contact surfaces and contact materials to FEA meshes
demo_FEA_cosimulate_granular	Advanced example of cosimulation, FEA on one side, and granular materials on the other
demo_FEA_cosimulate_load	Learn how to transfer loads to a FEA surface in a cosimulation context
demo_FEA_dynamics	Simple examples to learn how to create single elements. No GUI.
demo_FEA_electrostatics	The FEA module can be used also for basic electrostatics analysis using 3d tetrahedrons
demo_FEA_loads	Learn how to apply loads to FEA surfaces/volumes/points, and how to make custom loads
demo_FEA_shells	Show how to make a mesh made of shells
demo_FEA_thermal	The FEA module can be used also for basic thermal analysis using 3d tetrahedrons
demo_FEA_visualize	A simple demo that shows the functionality of ChVisualizationFEAmesh to plot stresses etc.

Chrono::Parallel – demos

FOLDER	CONTENT
demo_PAR_ballsSMC	Balls dropped in container – Penalty method
demo_PAR_ballsNSC	Balls dropped in container – Complementarity method
demo_PAR_fluidNSC	Simulation of fluid particles – Complementarity method
demo_PAR_particlesNSC	Simulation of rigid particles – Complementarity method
demo_PAR_mixerSMC	Mixing of granular material – Penalty method
demo_PAR_mixerNSC	Mixing of granular material – Complementarity method

Chrono::OpenGL – demos

FOLDER	CONTENT
demo_GL_benchmark	Simple test for Chrono::OpenGL module
demo_GL_cohesion	Demonstrate cohesion with complementarity method
demo_GL_inv_pendulum	Demonstrate user-defined PID controller for inverted pendulum
demo_GL_shapes	Demonstrate creation of various geometric shapes

Chrono::Vehicle – demos

FOLDER	CONTENT
demo_VEH_Articulated	Articulated-chassis wheeled vehicle
demo_VEH_DeformableSoil	Rigid wheel on SCM soil
demo_VEH_HMMWV	HMMWV vehicle (full double-wishbone suspension)
demo_VEH_HMMWV_DefSoil	HMMWV vehicle on SCM soil
demo_VEH_HMMWV9	HMMWV vehicle (reduced double-wishbone suspension)
demo_VEH_SteeringControler	Demonstration of PID steering and speed controllers (double-lane change)
demo_VEH_SuspensionTestRig	Suspension test rig defined through a JSON specification file
demo_VEH_TractorTrailer	Tractor-trailer vehicle
demo_VEH_WheeledGeneric	Generic wheeled vehicle (test bed for various templates)
demo_VEH_WheeledJSON	Vehicle completely defined through JSON specification files

Chrono::Vehicle – demos

FOLDER	CONTENT
demo_VEH_M113	M113 tracked vehicle on rigid terrain
demo_VEH_M113_DefSoil	M113 tracked vehicle on SCM soil
demo_VEH_M113_Parallel	M113 tracked vehicle with Chrono::Parallel